



GE  
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May 24, 2005

Mr. James M. DiLorenzo  
U.S. Environmental Protection Agency  
EPA New England  
1 Congress Street, Suite 1100  
Boston, MA 02114-2023

**Re: GE-Pittsfield/Housatonic River Site  
Silver Lake Area (GECD600)  
Revisions to Supplemental Pre-Design Investigation  
Report for Silver Lake Sediments**

Dear Mr. DiLorenzo:

In a letter dated May 19, 2005, the Environmental Protection Agency (EPA) provided the General Electric Company (GE) with conditional approval of the April 11, 2005 *Supplemental Pre-Design Investigation Report for Silver Lake Sediments* (Supplemental PDI Letter). This letter provides GE's responses to the conditions set forth in the conditional approval letter. For convenience, EPA's comments are provided in italics, followed by GE's response in standard format.

*Comment 1: Page 2, last para: The Report states that sheens were noted on the sample tubes but that no visual observations of NAPL were recorded and therefore concludes, "Since NAPL was not observed, there are no potential NAPL-related effects that can be evaluated as part of this investigation." This statement appears to be a contradiction. GE shall provide EPA with the detailed method used for pore water processing and provide any additional NAPL observations recorded during pore water processing (i.e., Was NAPL observed in, and/or removed from the centrifuge supernatant?), to the extent such observations exist.*

**Response 1:** Pore water processing was performed by the Woods Hole Group (WHG) in Raynham, MA consistent with the methods described in the standard operating procedure (SOP) provided in Attachment A to the *Pre-Design Investigation Work Plan for the Silver Lake Area* (BBL, revised January 2003). In summary, sediment cores were composited by location and centrifuged to obtain pore water. The pore water was then filtered and the filtered pore water was analyzed for metals, polychlorinated biphenyls (PCB) and total petroleum hydrocarbons (TPH). (The filtering process is described further below in the response to the next comment.) At no time during sample handling (e.g., sediment compositing, centrifugation, and pore water processing) was NAPL observed by WHG. The absence of any observation of NAPL was noted on page 2 of the Supplemental PDI Letter: "no NAPL was observed during the core processing for the pore water analyses".

*Comment 2: Page 6, first para: The Report states that the range of pore water turbidity values range from 8 to 73 NTUs, which is accurate. However, a review of the turbidity data in Table 2 shows that the results were above 45 NTUs for 7 of the 8 samples. These values are high for pore water. As requested above, GE shall provide EPA with the detailed method used for pore water*

*processing and provide any additional information regarding elevated turbidity readings (i.e., Was any consideration given to further centrifugation or filtration of the extracted pore water samples? Is there any information that would indicate if these particulates were all colloidal size? ), to the extent such information exists.*

**Response 2:** Following centrifugation of the sediments, the pore water was filtered as specified in SW-846 for metals and the SOP for PCBs and TPHs. Specifically, pore water samples intended for metals analyses were passed through a 0.45 micron ( $\mu$ ) filter and pore water samples for PCB and TPH analyses were passed through a 0.7  $\mu$  filter. The turbidity measurement was obtained following filtration of the pore water sample for PCB and TPH analyses. Based on discussions with WHG, pore water that was passed through the 0.7  $\mu$  filter was visually more turbid (i.e., cloudier) than the pore water that was passed through the 0.45  $\mu$  filter. Materials classified as colloids typically range in size from 0.001 to 10  $\mu^1$ . This suggests that the majority of suspended particles in the pore water were between 0.7 and 0.45  $\mu$  in size and the turbidity results are related to the presence of colloidal materials in the extracted pore water samples. WHG indicated that since the flow of water passing through the filters was unimpeded, it was not believed that multiple filtration steps would further reduce turbidity beyond what had been achieved with a single filtration step.

It is important to note that no relationship was observed between turbidity and pore water PCB concentrations. Further, despite the presence of what appears to be colloidal material in the pore water samples, measured Silver Lake pore water PCB concentrations were generally lower than what would be expected as predicted by the partitioning model.

*Comment 3: The Report states, "GE believes that the PDI for Silver Lake sediments is complete and proposes that TPH and metals be eliminated from further consideration in the conceptual RD/RA cap design process." EPA agrees that metals can be eliminated from further consideration, but not TPH. Although strong lines of evidence exist, as presented in the Report, that the presence of elevated TPH in the sediment has no observable influence on the potential transport of PCBs, the stability of NAPL in the sediment/pore water interface is likely to be impacted by consolidation and settlement of the cap material. At a minimum, it is possible that sheens could be released during placement of the cap. Therefore, in the work plan for the Silver Lake field-scale pilot, GE shall include methods to control, recover and monitor any sheen releases during and following cap placement. Measurable quantities of NAPL, if present, shall be characterized.*

**Response 3:**

GE has completed numerous sediment sampling and investigation activities within Silver Lake. At no time during any of these activities has there been direct observation of NAPL. It should be further noted that no sheens were generated as a result of cap placement or sediment consolidation during Stage 1 of the Silver Lake bench-scale study. Regardless, GE will be prepared for the release of NAPL and the potential generation of sheens during cap placement. As requested, the pilot study will include methods to control, recover and monitor any sheens during and following cap placement, to the extent practicable, and shall characterize any measurable quantities of NAPL, if present.

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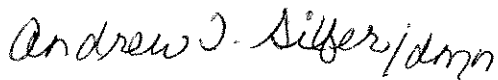
<sup>1</sup> Guidance Manual for Compliance with the Interim Enhanced Surface Water Treatment Rule: Turbidity Provisions, EPA 815-R-99-010, April 1999

**Comment 4:** Errata: Attachment B, Table 1: The date for PW1 is 2/15/2005, and not 2/15/2004 as indicated. GE shall revise.

**Response 4:** Attached please find a replacement for Attachment B, Table 1 with the corrected date.

GE trusts that the responses provided above adequately address EPA's comments and concerns regarding the Supplemental PDI Report. Please feel free to contact me with any additional questions.

Sincerely,

Handwritten signature of Andrew T. Silfer in cursive, followed by the initials 'dmn'.

Andrew T. Silfer, P.E.  
GE Project Coordinator

ATS/dmn  
Attachments

cc: Susan Steenstrup, MDEP  
Robert Bell, MDEP (without attachments)  
Anna Symington, MDEP (without attachments)  
Dean Tagliaferro, USEPA  
Holly Inglis, USEPA  
Tim Conway, USEPA  
Rose Howell, USEPA  
Susan Svirskey, USEPA  
K.C. Mitkevicius, USACE  
R. Goff, USACE  
Dale Young MA EOE  
Nancy Harper, MA AG (without attachments)  
~~Linda Palmieri~~, Roy F. Weston  
Mayor James Ruberto, City of Pittsfield  
Michael Carroll, GE (without attachments)  
Rod McLaren, GE (without attachments)  
Jim Nuss, BBL  
Stuart Messer, BBL  
Mark Graveling, BBL  
James Bieke, Goodwin Procter  
Public Information Repositories  
GE Internal Repositories

**TABLE 1**  
**TEMPERATURE AND DISSOLVED OXYGEN MEASUREMENTS**

**SUPPLEMENTAL PRE-DESIGN INVESTIGATION**  
**SILVER LAKE SEDIMENTS**  
**GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS**

**PW1**

<b>Water (ft.)</b>	18.8	
<b>Ice (in.)</b>	7	
<b>Date</b>	2/15/2005	
<b>Time</b>	845	
<b>Depth (ft)</b>	<b>Temp (°C)</b>	<b>DO (mg/L)</b>
2	3.13	11.76
4	3.77	12.17
6	3.62	12.64
8	3.61	12.78
10	3.77	10.76
12	3.75	10.61
14	3.68	10.39
16	3.62	10.68
18	3.67	9.64

**PW2**

<b>Water (ft.)</b>	17.7	
<b>Ice (in.)</b>	7	
<b>Date</b>	2/15/2005	
<b>Time</b>	1015	
<b>Depth (ft)</b>	<b>Temp (°C)</b>	<b>DO (mg/L)</b>
2	1.08	11.40
4	3.10	8.42
6	3.47	7.48
8	3.85	6.74
10	3.71	6.44
12	3.67	6.42
14	3.68	5.99
16	3.73	5.62

**TABLE 1**  
**TEMPERATURE AND DISSOLVED OXYGEN MEASUREMENTS**

**SUPPLEMENTAL PRE-DESIGN INVESTIGATION**  
**SILVER LAKE SEDIMENTS**  
**GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS**

**PW3**

<b>Water (ft.)</b>	23.5	
<b>Ice (in.)</b>	9.5	
<b>Date</b>	2/15/2005	
<b>Time</b>	1215	
<b>Depth (ft)</b>	<b>Temp (°C)</b>	<b>DO (mg/L)</b>
2	3.28	13.15
4	3.92	1.84
6	4.04	10.52
8	4.04	10.10
10	4.00	9.27
12	3.99	8.64
14	4.02	7.98
16	3.98	7.44
18	3.96	7.23
20	4.02	4.42
22	4.34	1.21

**PW4**

<b>Water (ft.)</b>	28.3	
<b>Ice (in.)</b>	9.5	
<b>Date</b>	2/15/2005	
<b>Time</b>	1345	
<b>Depth (ft)</b>	<b>Temp (°C)</b>	<b>DO (mg/L)</b>
2	2.98	12.97
4	3.94	11.95
6	3.89	11.56
8	3.88	11.67
10	3.93	9.99
12	3.94	9.05
14	3.95	7.61
16	3.95	7.48
18	3.95	7.39
20	4.01	6.18
22	4.06	3.58
24	4.08	4.05
26	4.18	2.47

**TABLE 1**  
**TEMPERATURE AND DISSOLVED OXYGEN MEASUREMENTS**

**SUPPLEMENTAL PRE-DESIGN INVESTIGATION**  
**SILVER LAKE SEDIMENTS**  
**GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS**

**PW5**

<b>Water (ft.)</b>	12.1	
<b>Ice (in.)</b>	9	
<b>Date</b>	2/15/2005	
<b>Time</b>	1530	
<b>Depth (ft)</b>	<b>Temp (°C)</b>	<b>DO (mg/L)</b>
2	3.48	11.99
4	3.95	11.27
6	4.08	10.33
8	4.13	8.76
10	4.06	8.7

**PW6**

<b>Water (ft.)</b>	9.0	
<b>Ice (in.)</b>	7	
<b>Date</b>	2/16/2005	
<b>Time</b>	800	
<b>Depth (ft)</b>	<b>Temp (°C)</b>	<b>DO (mg/L)</b>
2	3.42	11.34
4	3.72	11.23
6	3.86	11.09
8	4.01	9.7

**TABLE 1**  
**TEMPERATURE AND DISSOLVED OXYGEN MEASUREMENTS**

**SUPPLEMENTAL PRE-DESIGN INVESTIGATION**  
**SILVER LAKE SEDIMENTS**  
**GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS**

**PW7**

<b>Water (ft.)</b>	16.9	
<b>Ice (in.)</b>	8	
<b>Date</b>	2/16/2005	
<b>Time</b>	1045	
<b>Depth (ft)</b>	<b>Temp (°C)</b>	<b>DO (mg/L)</b>
2	3.75	13.63
4	3.99	12.73
6	4.07	11.93
8	4.11	10.25
10	4.06	10.16
12	4.03	9.50
14	4.00	9.30
16	3.97	8.17

**PW8**

<b>Water (ft.)</b>	11.7	
<b>Ice (in.)</b>	8	
<b>Date</b>	2/16/2005	
<b>Time</b>	1145	
<b>Depth (ft)</b>	<b>Temp (°C)</b>	<b>DO (mg/L)</b>
2	3.80	10.11
4	4.25	9.54
6	4.29	8.84
8	4.69	7.48
10	4.88	5.88